

REPLACEMENT ABSTRACT (marked-up version)

The present invention provides an asymmetric communication system having an echo canceller and a method for downloading a filter coefficient to the echo canceller. The echo canceller is a kind of a finite impulse response (FIR) filter for calculating a correlativity between an echo input signal and an echo output signal to generate a filter coefficient. The echo canceller includes a delay line block for delaying an echo input signal for a predetermined interval to generate a delay signal, a filter coefficient table block for sequentially shifting filter coefficients which are sequentially stored in a shift register, and a multiplication and accumulation block for multiplying and adding the delay signal of the delay line block by a filter coefficient that is an output of the filter coefficient table block to generate an echo-cancelled echo output signal. The filter coefficient has the shift rate ratio between the RT mode to the CO mode of the asymmetric communication system. ~~According to the invention, the hardware of an interpolation filter and a decimation filter are maximally shared between EC circuit operation in the CO mode and the RT mode of the system. A DSP adds a controllable delay function to perform an echo canceling operation only for the most dominant channel, not an entire channel. Thus, the hardware structure of the echo canceller is simplified.~~